



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,836	10/23/2003	Ivan Leichtling	MS1-1784US	6661
22801	7590	01/13/2005	EXAMINER	
LEE & HAYES PLLC 421 W RIVERSIDE AVENUE SUITE 500 SPOKANE, WA 99201			BETZ, BLAKE E	
			ART UNIT	PAPER NUMBER
			2672	

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/691,836	Applicant(s) LEICHTLING, IVAN	
	Examiner Blake E. Betz	Art Unit 2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Objections

Claims 10, 11, 13, and 24 are objected to because of the following informalities: the use of conditional if-then statements. Should a condition arise not covered by the conditions in claims 10, 11, and 13, the claims fail to further limit their parent claim. A revision of the claim language is suggested.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 22 and 23 rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,682,486 to Grossman et al.

The invention of Grossman describes the movement of windows or icons in a transport region from one monitor to another. Figure 4 shows a data structure that defines the transport region and the destination of the transported icon or window. As

shown in the data structure, the coordinate values of the transport region and the coordinate values for the target position are synchronously sent with the graphics data as represented by the icon identification number and class identification number. Column 4, lines 66 – 67, states, “Also, each graphical image within a class is uniquely identified by its icon identification number 440.” Column 6, lines 6 – 10, states, “The “icon” to be transported need not be static but may consist of animated images or TV broadcasts/signals displayed in a window or icon. The target monitors may be local (e.g., on the same desktop) or in a remote location connected via a network.” The icon identification number represents graphical data in that it identifies the graphical image being sent. Thus, the region data is synchronously gathered with the graphics data in that the two are obtained for transmission once they are moved into a designated region on the display.

Claims 1, 7, 8, 9, 14, 19, 20, 21, 24, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,437,803 to Panasyuk et al. in view of U.S. Patent No. 5,682,486 to Grossman et al.

Panasyuk discloses the invention claimed in claims 1, 7, 20, 24, 25, and 26. Panasyuk describes a system and method in which a window being shown on a server display is sent and displayed on a client display. Region data describing the window region on a server desktop is gathered and sent along with graphics data for the region to a client display. Column 2, lines 31 – 42, states, “In a further aspect, the present invention relates to a system for incorporating windows from a remote desktop into a local desktop. The system comprises a local node and a remote node connected by a

communications link. The communications link includes a first virtual channel and a second virtual channel. The nodes exchange desktop information such as window position, window size, and Bordering of desktop windows, over the first virtual channel. The nodes exchange graphical information over the second virtual channel. In some embodiments, the first virtual channel and the second channel may be provided as a single virtual channel." Column 6, lines 58 – 67, states, "During a seamless windowing mode session, the server agent 30 will send window information such as window position, size, styles, window text, etc. for all top-level windows on the server node. Also, foreground window information is sent, i.e., which window on the server node desktop is the foreground window. In accordance with this information, the client agent 40 creates windows with the same size/position as the server node windows on the client node desktop. In some embodiments, window elements are transmitted as bitmaps from the server node 20." Thus, the region and graphics data are gathered to describe the shared window and then sent to a client. Column 10 describes computing device readable media containing programs to perform the invention. Panasyuk does not disclose synchronously gathering the region and graphics data and sending the data to a client while maintaining synchronicity between the region and graphics data. The invention of Grossman describes the movement of windows or icons in a transport region from one monitor to another. Figure 4 shows a data structure that defines the transport region and the destination of the transported icon or window. As shown in the data structure, the coordinate values of the transport region and the coordinate values for the target position are synchronously sent with the graphics data as represented by

the icon identification number and class identification number. Column 4, lines 66 – 67, states, “Also, each graphical image within a class is uniquely identified by its icon identification number 440.” Column 6, lines 6 – 10, states, “The “icon” to be transported need not be static but may consist of animated images or TV broadcasts/signals displayed in a window or icon. The target monitors may be local (e.g., on the same desktop) or in a remote location connected via a network.” The icon identification number represents graphical data in that it identifies the graphical image being sent. Thus, the region data is synchronously gathered with the graphics data and the two are sent to a client from the server while maintaining the synchronicity between the two. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Panasyuk to include synchronously gathering and sending the region and graphics data for displaying a region of a server desktop remotely on a client display as taught by Grossman et al. One would have been motivated to make such a modification to the invention of Panasyuk with Grossman et al. so that while sharing a window between the server and client displays, the graphics being shared will always correspond to the intended region and will not display graphics data not intended to be sent to the client.

Claim 24 is disclosed by the invention of Panasyuk in view of Grossman as applied to claims 1, 7, 20, 25, and 26 above. The condition wherein the bandwidth is sufficient for sending the region and graphics data to the client was chosen from the claim, therefore placing no restrictions on the methods described by Panasyuk and

Grossman. Panasyuk as modified by Grossman sends the region in synchronicity with the graphics data to the client with the region data preceding the graphics data.

Claim 8 is disclosed by the invention of Panasyuk such that the region data is sequenced to precede the graphics data using rules of a remoting protocol. Column 3, lines 1 – 4, states, "Client nodes may communicate with server node 20 via any of a number of industry-standard data communications protocols including, but not limited to, TCP/IP, IPX/SPX, NetBEUI, or serial protocols." Thus, the rules of a remoting protocol are used while the synchronized region data precedes the graphics data are sent from the server to the client.

Claims 9, 14, 19, and 21 are disclosed by the invention of Panasyuk. Column 6 describes the sending of window information from the server to the client. Lines 63 – 66 state, "In accordance with this information, the client agent 40 creates windows with the same size/position as the server node windows on the client node desktop." Thus, the client receives the region and graphics data from the server and displays the graphics data in accordance with the region data.

Claims 10 – 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,437,803 to Panasyuk et al. in view of U.S. Patent No. 5,682,486 to Grossman et al. as applied to claims 1 above, and further in view of U.S. Patent No. 5,491,780 to Fyles et al.

Panasyuk and Grossman et al. disclose the invention in claims 10 – 13 except wherein various methods are used to reduce the amount of information sent from the server to the client display during conditions of low bandwidth. The invention of Fyles

discloses a system for efficient workstation screen updates that involves sending display information from a local computer to a remote computer. Fyles teaches of various ways of coping with low bandwidth situations while transmitting data from one computer to another. Column 1, lines 36 – 42, states, “A major problem in achieving this simultaneity between workstations is that the connections between the computers have a limited bandwidth. This is particularly so if telephone-based ISDN lines or similar are used. One way of coping with this is to use data compression, to reduce the amount of data that must be transmitted.” Column 2, lines 17 – 27, states, “In a preferred embodiment each identified portion of the screen is represented by a rectangle, and it is then the contents of this rectangle that is transmitted to the other computers in the network. The use of a rectangle is computationally very simple, and turns out to correspond to a large majority of updates. In a few cases the update has a more complicated shape, so that possibly a large proportion of the rectangle transmitted has not been updated. This could be avoided by using other shapes, perhaps based on more sophisticated calculations to determine very accurately the updated area of the screen for transmission.” Thus, the system of Fyles solves the restrictions caused by low bandwidth situations by altering the shape of the area to be sent for updating to the remote computer to reduce the amount of data that is to be transmitted. It would have been obvious to one skilled in the art at the invention was made to further modify the invention of Panasyuk in view of Grossman to include altering the area to be sent to the client computer so that less data needs to be transmitted as taught by Fyles et al. One would have been motivated to make such a modification so that in cases where the

bandwidth is too low to send the graphics and region data, the region data and graphics data may be altered in order to reduce the amount of bandwidth required by the transmission. It is also inherent in the invention of Panasyuk as modified by Grossman that a local computer may only transmit as much data to a remote system as allowed by the available bandwidth between the two. During situations of low bandwidth, only a reduced amount of data can be transferred.

Claims 2 – 6, 15, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,437,803 to Panasyuk et al. in view of U.S. Patent No. 5,682,486 to Grossman et al. as applied to claims 1 and 25 above, and further in view of U.S. Patent No. 6,304,895 to Schneider et al.

Panasyuk and Grossman et al. disclose the invention in claims 2, 5, and 27 except wherein the region and graphics data are synchronously gathered in a single driver. The system of Schneider controls the viewing of a display from a local computer on a target device by transmitting GDI calls. Figure 3a shows an implementation of the invention in which screen data is sampled and captured for transmission. Column 6, lines 65 – 67, and Column 7, lines 1 – 7, state, "Instead, the digitizer control application 220 periodically requests (through the device driver 210) that a whole screen of data be sampled. The digitizer control application 220 then draws the whole captured screen to its local screen using Windows GDI calls. The remote control software application 200 captures those GDI requests and retransmits them to the controlling computer 12. The client software on the controlling computer 12 then re-executes the commands so that the screen of the controller 50 and the screen of the controlling computer 12 show the

same image.” Thus, the device driver and control application of Schneider et al. collect the screen data, which includes region and graphics data to be stored in the data structure of Grossman for synchronous transmission. It would have been obvious to one skilled in the art at the invention was made to further modify the invention of Panasyuk in view of Grossman so that the region and graphics data are synchronously gathered by the display driver. One would have been motivated to make such a modification to Panasyuk and Grossman so that the server and client computers both share the same image as a result of transmitting the captured GDI requests from the device driver as taught by Schneider et al.

Panasyuk discloses claim 3 in that the server and client node communicate via one of a list of industry-standard protocols. Column 3, lines 1 – 9, states, “Client nodes may communicate with server node 20 via any of a number of industry-standard data communications protocols including, but not limited to, TCP/IP, IPX/SPX, NetBEUI, or serial protocols. Alternatively, client nodes 10 may connect to server node 20 using a proprietary data communications protocol such as the ICA protocol manufactured by Citrix Systems, Inc. of Fort Lauderdale, Fla. or the RDP protocol manufactured by Microsoft Corporation of Redmond, Wash.” Therefore, the region and graphics data to be sent from the server to the client is gathered and stored in a format of a remoting protocol.

Panasyuk discloses the method of claim 4 except wherein the region data is synchronously gathered by a display driver-level window object created to contain the shape and position information. Grossman teaches of using a display driver-level

window object to gather and contain the shape and position information of a shared object in figure 4. It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the invention of Panasyuk so that the region data is synchronously gathered by a display driver-level window object to contain the shape and position information. One would have been motivated to make such a modification to the invention of Panasyuk so that there existed a record containing all the region data of the shared window between the server and client, thus facilitating the synchronicity between the region data and the graphics data upon sending the shared window to a client by sending the region data in advance of the graphics data in the data structure.

Panasyuk and Grossman disclose the method of claim 6 except wherein the display driver synchronously gathers graphics data by gathering drawing commands issued to a graphics device interface subsystem of an operating system of the server. Schneider teaches of gathering GDI drawing commands for transmission to a client from a server. Column 3, lines 29 – 32, states, "In general, the system of the present invention transmits a GDI representation of digitized video signals as well as mouse and keyboard signals over a communications link." Column 6, line 67, and column 7, lines 1 – 7, state, "The digitizer control application 220 then draws the whole captured screen to its local screen using Windows GDI calls. The remote control software application 200 captures those GDI requests and retransmits them to the controlling computer 12. The client software on the controlling computer 12 then re-executes the commands so that the screen of the controller 50 and the screen of the controlling computer 12 show

the same image.” Thus, the graphics data is gathered by collecting drawing commands issued to a graphics device interface subsystem. It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the method of Panasyuk in view of Panasyuk and Grossman to include the method of Schneider such that the graphics data is gathered by collecting drawing commands issued to a graphics device interface subsystem. One would have been motivated to make such a modification to the invention of Panasyuk in view of Grossman so that upon sending the graphics data to a client computer, only the drawing commands are sent to the client instead of sending bitmap images. This reduces the amount of information to be communicated and thus reduces the amount of bandwidth needed to transmit screen data from the server to a client.

Panasyuk and Grossman as applied to claim 1 disclose the system of claim 15 except wherein a display driver collects the synchronously gathered region and graphics data region and a region and graphics gathering module gathers region and graphics data. The system of Schneider controls the viewing of a display from a local computer on a target device by transmitting GDI calls. Figure 3a shows an implementation of the invention in which screen data is sampled and captured for transmission. Column 6, lines 65 – 67, and Column 7, lines 1 – 7, state, “Instead, the digitizer control application 220 periodically requests (through the device driver 210) that a whole screen of data be sampled. The digitizer control application 220 then draws the whole captured screen to its local screen using Windows GDI calls. The remote control software application 200 captures those GDI requests and retransmits them to the controlling computer 12. The

client software on the controlling computer 12 then re-executes the commands so that the screen of the controller 50 and the screen of the controlling computer 12 show the same image.” Thus, the device driver and control application collect the region data and graphics data. The gathering module to synchronously gather region and graphics data is performed by the remote control software application as it captures the GDI requests. It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the invention of Panasyuk to include a device driver and control application collect the region data and graphics data and a remote control software application to capture GDI requests so as to synchronously gather region and graphics data for a display. One would have been motivated to make such a modification so that graphics data being sent from a server to a client is in the form of GDI drawing commands instead of bitmap images. Additionally, gathering region and graphics data in the same control software application module allows for synchronicity to be achieved between the data since they are both gathered from the same captured screen in the application.

Claims 16, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Panasyuk in view of Grossman and Schneider as applied to claim 15 above, and further in view of U.S. Patent No. 5,461,716 to Eagen et al.

Panasyuk in view of Grossman and Schneider disclose the engine in claims 16 and 18 except wherein a data output scheduler is associated with the display driver to send the region and graphics data to a client in a sequence and comprising a data gathering scheduler to schedule synchronous gathering a region and graphics data.

Panasyuk teaches of issuing commands periodically at a predetermined rate to determine when changes to the server's desktop have occurred. Column 4, lines 3 – 8, states, "The agents 30, 40 can issue the Enum Windows command every 50 milliseconds, every 100 milliseconds, every 500 milliseconds, or at any period that allows the agent 30, 40 to rapidly determine when changes to its associated desktop environment have occurred without putting a significant computational burden on the node." The apparatus of Eagen includes presenting and removing of windows from a host terminal to a workstation. Column 8 discloses a display data manager that constructs a data stream according to a given format when information is to be displayed at a remote terminal. Lines 25 – 32 state, "When an applications program needs to communicate with a remote terminal it calls up an applications program interface routine, one form of which is identified as a "display data manager." When information is to be displayed at a remote terminal, the display data manager constructs a data stream according to a particular format, and transmits this data stream to a workstation controller." Thus, the display data manager performs the tasks of output scheduler and gathering scheduler by constructing a data stream according to a particular format to transmit data to a workstation controller. It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the invention of Panasyuk in view of Grossman and Schneider to include a display data manager to perform the tasks of an output scheduler and a data gathering scheduler as taught by Eagen. One would have been motivated to make such a modification so that the gathering and sending of the graphics and region data is

performed periodically at a predetermined rate to coincide with the periodic updates of the server's desktop environment in Panasyuk.

Panasyuk in view of Grossman and Schneider disclose the engine in claim 17 except wherein a bandwidth compensator maintains security with respect to the synchronized region and graphics data during a condition of low bandwidth. Eagen discloses a communications device for transmitting data to a target device. Column 4, lines 65 – 67, and column 5, line 1, state, "The controlling computer 12 also includes a communications device 53 for communicating with the target device(s). Such a device 53 may include (1) a modem for connecting via a telephone connection, (2) a wireless transceiver for wirelessly communicating, and (3) a wired adapter (e.g., an Ethernet or token ring adapter)." Column 3, lines 56 – 67, describes the contents of the controlling computer that contains the communications device as containing a CPU. It is obvious to one having ordinary skill in the art that a CPU and communications device can be combined to create a bandwidth compensator such that the system is aware of conditions of low bandwidth. It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the invention of Panasyuk in view of Grossman and Schneider to include a bandwidth compensator. One would have been motivated to make such a modification so that in conditions of low bandwidth, the security with respect to the synchronized region and graphics data is maintained and no unintended regions of the graphics data will be displayed on the target computer.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6,292,166 to Palmer et al.

U.S. Patent No. 5,339,389 to Bates et al.

U.S. Patent No. 5,583,993 to Foster et al.

U.S. Patent No. 5,822,525 to Tafoya et al.

U.S. Patent No. 5,859,974 to McArdle et al.

U.S. Patent No. 5,867,156 to Beard et al.

U.S. Patent No. 5,920,311 to Anthias

U.S. Patent No. 5,928,324 to Sloan

U.S. Patent No. 5,982,392 to Anfossi et al.

U.S. Patent No. 5,990,852 to Szamrej

U.S. Patent No. 6,016,166 to Huang et al.

U.S. Patent No. 6,141,022 to Anfossi et al.

U.S. Patent No. 6,273,821 to Moriguchi

U.S. Patent No. 6,292,166 to Palmer et al.

U.S. Patent No. 6,390,371 to Armga et al.

U.S. Patent No. 6,411,988 to Tafoya et al.

U.S. Patent No. 6,462,755 to Anthias

U.S. Patent No. 6,470,353 to Yaung et al.

U.S. Patent No. 6,662,210 to Carleton et al.

U.S. Patent No. 6,760,840 to Shimbo et al.

Art Unit: 2672

U.S. Patent No. 6,782,508 to Bahrs et al.

U.S. Patent No. 6,806,885 to Piper et al.

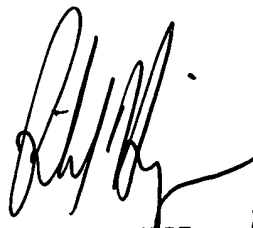
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blake E. Betz whose telephone number is (703) 605-4584. The examiner can normally be reached on 7:30 - 4:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on (703) 305-4713. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BB

BB 1/5/05


RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600
1/10/05